SANTA CRUZ BIOTECHNOLOGY, INC.

Trio (D-20): sc-6060

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Protein tyrosine phosphatases, or PTPs, are type I transmembrane proteins, membrane-associated proteins or proteins localized in nuclei. Examples of transmembrane PTPs are LAR, PTPα, PTPβ, PTPγ, PTPδ, PTPε, PTPζ, PTPκ and PTPμ. Transmembrane PTPs play diverse roles during development and in adult tissues. Immunodepletion studies have suggested LAR to be a regulator of Insulin receptor phosphorylation. Trio is a LAR-interacting protein that contains two functional guanine nuclear exchange factor (GEF) domains and a serine/threonine protein kinase (PSK) domain. One of the the Trio-GEF domains exhibits Rac-specific GEF activity while the other exibits Rho-specific GEF activity. The carboxy-terminal PSK domain is most similar to the PSK domains of the CaMK family.

REFERENCES

1. Ahmad, F., et al. 1995. Increased abundance of the receptor-type protein-tyrosine phosphatase LAR accounts for the elevated Insulin receptor dephosphorylating activity in adipose tissue of obese human subjects. J. Clin. Invest. 95: 2806-2812.
2. den Hertog, J., et al. 1995. Stimulation of receptor protein-tyrosine phosphatase α activity and phosphorylation by phorbol ester. Cell Growth Differ. 6: 303-307.
3. Elson, A. and Leder, P. 1995. Protein-tyrosine phosphatase ε. An isoform specifically expressed in mouse mammary tumors initiated by v-Ha-ras OR neu. J. Biol. Chem. 270: 26116-26122.

CHROMOSOMAL LOCATION

Genetic locus: TRIO (human) mapping to 5p15.2.

SOURCE

Trio (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Trio of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6060 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as phycoerythrin conjugate for flow cytometry, sc-6060 PE, 100 tests.

Available as Alexa Fluor® 405 (sc-6060 AF405), Alexa Fluor® 488 (sc-6060 AF488) or Alexa Fluor® 647 (sc-6060 AF647) conjugates for flow cytometry or immunofluorescence; 100 µg/2 ml.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Trio (D-20) is recommended for detection of Trio of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

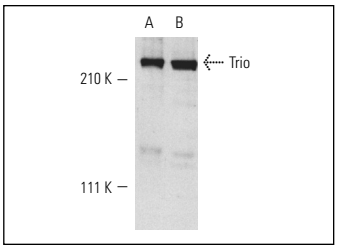
Trio (D-20) is also recommended for detection of Trio in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Trio siRNA (h): sc-36724, Trio shRNA Plasmid (h): sc-36724-SH and Trio shRNA (h) Lentiviral Particles: sc-36724-V.

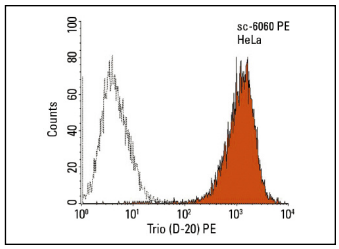
Molecular Weight of Trio: 358 kDa.

Positive Controls: WI 38 whole cell lysate: sc-364260 or HeLa whole cell lysate: sc-2200.

DATA



Trio (D-20): sc-6060. Western blot analysis of Trio expression in WI-38 (**A**) and HeLa (**B**) whole cell lysates.



Trio (D-20) PE: sc-6060 PE. Intracellular FCM analysis of fixed and permeabilized HeLa cells. Black line histogram represents the isotype control, normal goat IgG: sc-3992.

SELECT PRODUCT CITATIONS

1. Dalkilic, I., et al. 2006. Loss of Filamin C (FLNc) results in severe defects in myogenesis and myotube structure. Mol. Cell. Biol. 26: 6522-6534.
2. Backer, S., et al. 2007. Trio controls the mature organization of neuronal clusters in the hindbrain. J. Neurosci. 27: 10323-10332.
3. Charrasse S, et al. 2007. M-cadherin activates Rac1 GTPase through the Rho-GEF trio during myoblast fusion. Mol. Biol. Cell 18: 1734-1743.
4. Lane, J., et al. 2008. The expression and prognostic value of the guanine nucleotide exchange factors (GEFs) Trio, Vav1 and TIAM-1 in human breast cancer. Int. Semin. Surg. Oncol. 5: 23.
5. Salhia, B., et al. 2008. The guanine nucleotide exchange factors Trio, Ect2, and Vav3 mediate the invasive behavior of glioblastoma. Am. J. Pathol. 173: 1828-1838.
6. Bach, A.S., et al. 2010. ADP-ribosylation factor 6 regulates mammalian myoblast fusion through phospholipase D_1 and phosphatidylinositol 4,5-bisphosphate signaling pathways. Mol. Biol. Cell 21: 2412-2424.

RESEARCH USE

For research use only, not for use in diagnostic procedures.